R E M A R K S

Claims 1-11 are now in this application, and are presented for the Examiner's consideration.

The claims have been amended to provide proper antecedent basis and to eliminate all "means" terminology. The Abstract has also been amended to eliminate all "means" terminology and to place the same in a single paragraph.

Please charge any additional fees incurred by this Preliminary Amendment, or credit any overpayment, to Deposit Account No. 07-1524.

It is hoped that this Preliminary Amendment will facilitate an examination of the application on its merits.

Respectfully submitted,

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ABSTRACT OF THE DISCLOSURE

A spectrophotometer and spectrophotometry method, using a precision drive [means] at [the] a photodiode array[, is disclosed. The drive means] which precisely moves the photodiode array by a distance equal to the physical interval between the photodiodes of the photodiode array[. Therefore,] so that the spectrophotometer and spectrophotometry method [of this invention] primarily measures light intensities of incident light by the photodiode array, and when precisely moves the photodiode array using the drive [means] by the distance equal to the physical interval between photodiodes of the photodiode array, [and] measures the light intensities of the incident light at desired positions corresponding to the intervals.

1.   (Amended) A spectrophotometer, comprising:

a light source used for emitting a light beam having a predetermined wavelength range;

a light guide [guiding means] for guiding the light

5   beam from the said light source to a target sample;

a spectrometer head [consisting of] including:

a light diffractor [diffracting means] for diffracting the light beam transmitted through the target sample to produce optical spectra,

10   a light reflector [reflecting means] for reflecting the diffracted light from the light diffractor,

a light intensity measuring arrangement [means] for measuring intensity of incident light reflected by the light reflector [reflecting means],

15   a drive [means] for reciprocating the light intensity measuring arrangement [means] within a predetermined range, and

a stop [means] for limiting a reciprocating movement of the light intensity measuring arrangement [means];

20   and

a signal-processing unit used for reproducing a distribution of light intensities measured by the light intensity measuring arrangement [means] of the spectrometer head.

2.   (Amended) The spectrometer according to claim 1, wherein said light guide [guiding means] comprises a multimode optical fiber.

3.   (Amended) The spectrometer according to claim 1, wherein said light diffractor [diffracting means] comprises a reflective diffraction grating.

4.   (Amended) The spectrometer according to claim 1, wherein said light reflector [reflecting means] comprises a concave mirror.

5.   (Amended) The spectrometer according to claim 1, wherein said light intensity measuring arrangement [means] comprises a photodiode array, with a plurality of photodiodes linearly arrangement on a longitudinal mount at regular physical intervals.

6.   (Amended) The spectrometer according to claim 1, wherein said drive [means] comprises a piezoelectric drive unit physically expandable or contractible in accordance with [the] a level of [the] applied voltage.

7.   (Amended) The spectrometer according to claim 1,

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wherein said drive [means] comprises:

a bimorph piezoelectric drive plate physically expandable [or] and contractible in accordance with [the] a level

5 of an applied voltage; and

a bimorph piezoelectric fixing plate cemented together with said bimorph piezoelectric drive plate, said bimorph piezoelectric fixing plate being physically expandable [or] and contractible in accordance with the level of the applied voltage.

8.   (Amended) The spectrometer according to claim 1, wherein said stop [means] comprises two stoppers arranged at predetermined positions around opposite ends of the light intensity measuring arrangement [means] of the spectrometer head

5 in a moving direction of said light intensity measuring arrangement [means] so as to limit [the] reciprocating movement of the light intensity measuring arrangement [means].

9.   (Amended) The spectrometer according to claim 6, wherein a displacement amplifier is attached to said piezoelectric drive unit for amplifying a displacement of the piezoelectric drive unit.

10.   (Not Changed) The spectrometer according to claim 7, wherein said bimorph piezoelectric drive plate and said bimorph

piezoelectric fixing plate cemented together are different from

each other in their coefficients of expansion and coefficients of

5   contraction in response to an applied voltage.

11.   (Amended) A spectrophotometry method using a

spectrophotometer with a drive [means], comprising the steps of:

a light transmitting step of guiding a light beam from

a light source to a target sample through a multimode optical

5   fiber so as to allow the light beam to be partially transmitted

through said sample;

a light diffraction step of receiving the light beam,

transmitted through said sample, into a reflective diffraction

grating, thus diffracting the light beam into discrete

10   wavelengths to produce optical spectra;

a light reflection step of reflecting the optical

spectra of the diffracted light beam by a concave mirror to a

photodiode array;

a second intensity measurement step of moving the

15   photodiode array using the drive [means] by a distance equal to

the physical interval between photodiodes of said photodiode

array and measuring light intensities of the incident optical

spectra at desired positions corresponding to said intervals; and

an intensity distribution reproduction step of

20   transmitting spectrometric analysis data, obtained at the first

and second intensity measurement steps, from the photodiode array

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to a signal-processing unit, and reproducing a light intensity distribution of the target sample by the signal-processing unit.